IN THE CLAIMS

1. (Original) An interconnect comprising:

a trench having a depth and a width, the depth being greater than a critical depth; and

a number of metal layers above the trench, wherein the number of metal layers is determined by the width.

2. (Cancelled)

3. (Previously Presented) The interconnect of claim 1, wherein at least one of the number of metal layers is fabricated from copper.

4. (Original) An interconnect comprising:

a trench having a width and a depth, the depth being greater than a critical depth;

a number of metal stack layers capable of defining a critical width and located above the trench; and

a number of metal layers above the trench, wherein the number of metal layers above the trench is a function of the width and the critical width.

5. (Original) The interconnect of claim 4, wherein the width is greater than the critical width.

6. (Original) The interconnect of claim 4, wherein each of the number of metal stack layers is planarized by chemical mechanical polishing.

7. (Original) An interconnect comprising:

a trench having a depth and a width; and

a number of metal layers above the trench, wherein for the depth being greater than a critical depth, the number of metal layers are capable of being increased as the width increases.

8. (Original) An interconnect comprising:

a trench having a trench depth greater than a critical depth;

a number of metal stack layers above the trench, the number of metal stack layers having a thickness; and

a number of metal layers above the trench, wherein the number of metal layers is capable of being increased as the thickness decreases.

9. (Original) The interconnect of claim 8, wherein at least one of the number of metal stack layers above the trench couples a first logic device to a second logic device.

10. (Original) An interconnect comprising:

a first memory cell;

a second memory cell;

a trench having a trench depth greater than a critical depth; and

a number of metal stack layers above the trench, wherein each of the number of metal stack layers has a sidewall thickness, the number of metal stack layers above the trench is capable of being increased as the sidewall thickness decreases, and at least one of the number of metal stack layers couples the first memory cell to the second memory cell.

11. (Original) An interconnect comprising:

a first trench having a depth greater than a critical depth and a width less than twice a first sidewall thickness;

a second trench having the depth of the first trench and a width greater than twice the first sidewall thickness and less than twice a sum of the first sidewall thickness and a second sidewall thickness;

a first metal layer above the first trench and the second trench; and

a second metal layer above the second trench.

12. (Original) The interconnect of claim 11, wherein the first metal layer above the first trench couples a first integrated circuit device to a second integrated circuit device in a memory module.

13. (Original) The interconnect of claim 11, wherein the first metal layer above the first trench couples a first integrated circuit device to a second integrated circuit device in a logic module.

14. (Original) The interconnect of claim 11, wherein the second metal layer is fabricated from Al-Cu.

15. (Original) An interconnect comprising:

a first trench having a top and a depth greater than a critical depth, and a width less than a sidewall width of a first metal;

a second trench having a depth greater than a second critical depth, and a width greater than twice the sidewall width of the first metal and less than twice a sidewall width of a second metal; and

a first and a second metal deposited on the first trench and the second trench, the second metal is planarized to the top of the first trench.

16. (Original) The interconnect of claim 15, wherein the second metal comprises Al.

17. (Original) The interconnect of claim 15, wherein the second metal is planarized by chemical mechanical polishing.

18.-22. (Cancelled)

23. (Original) An interconnect comprising:

a trench having a width and a metal layer; and

a second trench having a depth greater than a critical depth and a second width greater than the width, the second trench having a plurality of metal layers and at least one of the plurality of metal layers is coupled to the metal layer.

24. (Original) The interconnect of claim 23, further comprising a wire bond coupling a conductive material to at least one of the plurality of metal layers.

25. (Original) The interconnect of claim 24, wherein at least one of the plurality of metal layers is aluminum.

26. (Original) An interconnect comprising:

a trench having a depth greater than a critical depth and a copper layer; and

a second trench wider than the trench, and the second trench having a plurality of metal layers, wherein at least one of the plurality of layers is an aluminum layer, and at least one of the plurality of metal layers is coupled to the copper layer.

27. (Original) The interconnect of claim 26, wherein the aluminum layer is an aluminum alloy layer.

28. (Original) The interconnect of claim 26, wherein at least one of the plurality of metal layers is a copper layer.

29. (Original) The interconnect of claim 26, wherein the aluminum layer is wire-bonded to a conductive material.

30. (Original) The interconnect of claim 29, wherein the conductive material is gold.

31. (Original) An interconnect comprising:

a trench having a critical depth, a width, a barrier layer, and a metal layer over the barrier layer; and

a second trench having a second width greater than the width and the second trench having a barrier layer, a copper layer over the barrier layer, a titanium layer over the copper layer, a titanium nitride layer over the titanium layer, and an aluminum alloy layer over the titanium nitride layer.

32. (Original) The interconnect of claim 31, wherein the barrier layer comprises TiN.

33. (Original) The interconnect of claim 31, wherein the aluminum alloy layer is planarized by chemical mechanical polishing.

34. (Original) An interconnect comprising:

a trench, a barrier layer, and a metal layer over the barrier layer; and

a second trench, a barrier layer, a copper layer over the barrier layer, a tantalum layer over the copper layer, a tantalum nitride layer over the tantalum layer, and an aluminum alloy layer over the tantalum nitride layer.

35. (Original) The interconnect of claim 34, wherein the barrier layer comprises Ti/TiN.

36. (Original) A conductive structure comprising:

a trench having a barrier layer and a metal layer over the barrier layer; and

a second trench wider than the trench and the second trench having a barrier layer, a copper layer over the barrier layer, a tantalum layer over the copper layer, a tantalum nitride layer over the tantalum layer, and an aluminum alloy layer over the tantalum nitride layer.

37. (Original) The conductive structure of claim 36, wherein the barrier layer comprises TaN.

38. (Original) The conductive structure of claim 36, wherein the aluminum alloy layer comprises Al-Si-Cu.

39. (Original) The conductive structure of claim 36, wherein the copper layer is planarized by chemical mechanical polishing.

40. (Original) A conductive structure comprising:

a trench having a barrier layer and a metal layer over the barrier layer; and

a second trench having a depth greater than a critical depth, a barrier layer, a copper layer over the barrier layer, a tantalum layer over the copper layer, and an aluminum alloy layer over the tantalum layer.

41. (Original) The conductive structure of claim 40, wherein the metal layer is copper.

42. (Original) The conductive structure of claim 40, wherein the aluminum alloy is aluminum-copper.

43. (Original) The conductive structure of claim 40, wherein the barrier layer is Ta/TaN.

44. (Original) An interconnect comprising:

a trench having a width and a barrier layer and a metal layer over the barrier layer; and

a second trench having a barrier layer, a copper layer over the barrier layer, a tantalum nitride layer over the copper layer, and an aluminum alloy layer over the tantalum nitride layer.

45. (Original) The interconnect of claim 44, wherein the second trench has a second width greater than the width.

46. (Original) The interconnect of claim 45, wherein the barrier layer is a refractory metal nitride.

47. (Original) The interconnect of claim 46, wherein the tantalum nitride layer is planarized by chemical mechanical polishing.

48. (Original) An interconnect comprising:

a trench having a depth less than a critical depth and a width less than a critical width and a metal layer; and

a second trench having a depth greater than a critical depth;

a plurality of metal layers above the second trench, at least one of the plurality of metal layers is coupled to the metal layer, wherein at least one of the plurality of metal layers is capable of forming a highly reliable eutectic bond to a conductive material.

49. (Original) The interconnect of claim 48, wherein the metal layer is copper.

50. (Original) The interconnect of claim 49, wherein at least of the plurality of metal layers is aluminum.

51. (Original) The interconnect of claim 48, wherein at least one of the plurality of metal layers is an aluminum alloy.

52. (Original) An interconnect comprising:

a trench having a metal layer and a depth greater than a critical depth; and

a second trench having a plurality of metal layers, at least one of the plurality of metal layers is coupled to the metal layer, wherein only one of the plurality of metal layers is capable of forming a highly reliable eutectic bond to a gold wire.

53. (Original) The interconnect of claim 52, wherein the second trench has a depth greater than the critical depth.

54. (Original) A conductive structure comprising:

a trench having a width, a depth, and a metal layer; and

a second trench having a width, a depth and a plurality of metal layers, the width of the second trench is greater than the width of the trench, and at least one of the plurality of the metal layers is capable of being electrically coupled to the metal layer.

55. (Original) The conductive structure of claim 54, wherein at least one of the plurality of the metal layers is wire-bonded to a highly conductive wire.

56. (Original) The conductive structure of claim 55, wherein the highly conductive wire is a gold alloy.

57. (Original) A conductive structure comprising:

a narrow trench having a metal layer and a depth greater than a critical depth; and

a wide trench having a plurality of metal layers and a second depth equal to the depth, wherein at least one of the plurality of metal layers is coupled to the metal layer.

58. (Original) An interconnect comprising:

a trench having a width less than a critical width, a depth and a metal layer; and

a wide depression having a second width greater than the critical width, a second depth equal to the depth, and a plurality of metal layers, wherein at least one of the plurality of metal layers is coupled to the metal layer.

59. (Original) The interconnect of claim 58, wherein the depth is greater than a critical depth.

60. (Original) The interconnect of claim 59, wherein at least one of the plurality of metal layers is eutectically wire-bonded to a gold wire.

61.-80. (Cancelled)